

CLAIMS

1. A sheet feeding apparatus comprising:
a sheet container for containing a plurality of stacked sheets;
an elevation/lowering driving unit for elevating and lowering the sheet container;

a sheet conveying unit for sequentially taking out the sheets from an uppermost layer put in contact with the sheet conveying unit by elevating the sheet container by the elevation/lowering driving unit and conveying the sheets to a predetermined conveyance path;

a regulating unit provided so as to be slidable on the sheet container for regulating a set position of a sheet;

a position detector for detecting a position of the regulating unit; and

a contact detector for detecting a contact state between the uppermost layer of the sheets contained in the sheet container and the sheet conveying unit,

wherein the elevation/lowering driving unit lowers the sheet container when a change in the position of the regulating unit is detected by the position detector in a state in which the uppermost layer of the sheets contacts the sheet conveying unit.

2. The sheet feeding apparatus according to Claim 1,
wherein the elevation/lowering driving unit lowers the sheet

container until the uppermost layer of the sheets and the sheet conveying unit are separated when the position detector detects a change in the position of the regulating unit.

3. The sheet feeding apparatus according to Claim 1, further comprising:

a receiving unit for receiving information according to a lowered amount of the sheet container; and

a storage for storing the received information,

wherein the elevation/lowering driving unit lowers the sheet container by the lowered amount stored in the storage when the position detector detects a change in the position of the regulating unit.

4. The sheet feeding apparatus according to Claim 1, further comprising a measuring unit for measuring a dimension of a sheet contained in the sheet container based on a detection result of the position detector.

5. The sheet feeding apparatus according to Claim 1, further comprising a clocking unit, wherein the elevation/lowering driving unit elevates the sheet container when a change in the position of the regulating unit is not detected for a predetermined time.

6. A sheet feeding apparatus comprising:

sheet containing means for containing a plurality of stacked sheets;

elevation/lowering driving means for elevating and lowering the sheet containing means;

sheet conveying means for sequentially taking out the sheets from an uppermost layer put in contact with the sheet conveying means by elevating the sheet containing means by the elevation/lowering driving means and conveying the sheets to a predetermined conveyance path;

regulating means provided so as to be slidable on the sheet containing means for regulating a set position of a sheet;

position detecting means for detecting a position of the regulating means; and

contact detecting means for detecting a contact state between the uppermost layer of the sheets contained in the sheet containing means and the sheet conveying means,

wherein the elevation/lowering driving means lowers the sheet containing means when a change in the position of the regulating means is detected by the position detecting means in a state in which the uppermost layer of the sheets contacts the sheet conveying means.

7. The sheet feeding apparatus according to Claim 6, wherein the elevation/lowering driving means lowers the sheet containing means until the uppermost layer of the sheets and the

sheet conveying means are separated when the position detecting means detects a change in the position of the regulating means.

8. The sheet feeding apparatus according to Claim 6, further comprising:

receiving means for receiving information according to a lowered amount of the sheet containing means; and

storing means for storing the received information,

wherein the elevation/lowering driving means lowers the sheet containing means by the lowered amount stored in the storing means when the position detecting means detects a change in the position of the regulating means.

9. The sheet feeding apparatus according to Claim 6, further comprising measuring means for measuring a dimension of a sheet contained in the sheet containing means based on a detection result of the position detecting means.

10. The sheet feeding apparatus according to Claim 6, further comprising clocking means, wherein the elevation/lowering driving means elevates the sheet containing means when a change in the position of the regulating means is not detected for a predetermined time.

11. An image reading apparatus comprising:

a sheet container for containing a plurality of stacked sheets;
an elevation/lowering driving unit for elevating and lowering the sheet container;

a sheet conveying unit for sequentially taking out the sheets from an uppermost layer put in contact with the sheet conveying unit by elevating the sheet container by the elevation/lowering driving unit and conveying the sheets to a predetermined conveyance path;

an image reading unit for reading an image on a sheet conveyed by the sheet conveying unit;

a regulating unit provided so as to be slidable on the sheet container for regulating a set position of a sheet;

a position detector for detecting a position of the regulating unit; and

a contact detector for detecting a contact state between the uppermost layer of the sheets contained in the sheet container and the sheet conveying unit,

wherein the elevation/lowering driving unit lowers the sheet container when a change in the position of the regulating unit is detected by the position detector in a state in which the uppermost layer of the sheets contacts the sheet conveying unit.

12. The image reading apparatus according to Claim 11, wherein the elevation/lowering driving unit lowers the sheet container until the uppermost layer of the sheets and the sheet

conveying unit are separated when the position detector detects a change in the position of the regulating unit.

13. The image reading apparatus according to Claim 11, further comprising:

a receiving unit for receiving information according to a lowered amount of the sheet container; and

a storage for storing the received information,

wherein the elevation/lowering driving unit lowers the sheet container by the lowered amount stored in the storage when the position detector detects a change in the position of the regulating unit.

14. The image reading apparatus according to Claim 11, further comprising a measuring unit for measuring a dimension of a sheet contained in the sheet container based on a detection result of the position detector.

15. The image reading apparatus according to Claim 11, further comprising a clocking unit, wherein the elevation/lowering driving unit elevates the sheet container when a change in the position of the regulating unit is not detected for a predetermined time.

16. An image forming apparatus comprising:

a sheet container for containing a plurality of stacked sheets;
an elevation/lowering driving unit for elevating and lowering the sheet container;

a sheet conveying unit for sequentially taking out the sheets from an uppermost layer put in contact with the sheet conveying unit by elevating the sheet container by the elevation/lowering driving unit and conveying the sheets to a predetermined conveyance path;

an image forming unit for forming an image on a sheet conveyed by the sheet conveying unit;

a regulating unit provided so as to be slidable on the sheet container for regulating a set position of a sheet;

a position detector for detecting a position of the regulating unit; and

a contact detector for detecting a contact state between the uppermost layer of the sheets contained in the sheet container and the sheet conveying unit,

wherein the elevation/lowering driving unit lowers the sheet container when a change in the position of the regulating unit is detected by the position detector in a state in which the uppermost layer of the sheets contacts the sheet conveying unit.

17. The image forming apparatus according to Claim 16, wherein the elevation/lowering driving unit lowers the sheet container until the uppermost layer of the sheets and the sheet

conveying unit are separated when the position detector detects a change in the position of the regulating unit.

18. The image forming apparatus according to Claim 16, further comprising:

a receiving unit for receiving information according to a lowered amount of the sheet container; and

a storage for storing the received information,

wherein the elevation/lowering driving unit lowers the sheet container by the lowered amount stored in the storage when the position detector detects a change in the position of the regulating unit.

19. The image forming apparatus according to Claim 16, further comprising a measuring unit for measuring a dimension of a sheet contained in the sheet container based on a detection result of the position detector.

20. The image forming apparatus according to Claim 16, further comprising a clocking unit, wherein the elevation/lowering driving unit elevates the sheet container when a change in the position of the regulating unit is not detected for a predetermined time.